1195-95 Electrocardiogram Interpretation in Acute Coronary Syndromes: To Be Improved?

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Background: ECG interpretation is an essential step in the diagnosis and the risk stratification of acute coronary syndromes without ST segment elevation (ACS), allowing the physician to tailor the intensity of its management and treatment. However, little is known about the quality of this interpretation in the emergency room (ER). We performed this study to answer specifically this question. **Methods:** This monocentric study was conducted during a period of 6 months in the ER. Interpretations of the first ECG performed after admission were prospectively collected. A blind assessment by an intensivist and an interventionnal cardiologist was then performed ; discordances were resolved by an ECG specialist and integrated in the final-external interpretation (FEXI), allowing the comparison with the interpretation in the ER. **Results:** 641 ECG were included in our study. The blind assessment was not fully concordant with the FEXI (kappa 0,8 and 0,9). Under the stress situation in the emergency department, 74% of the interpretations were in agreement with the FEXI (kappa 0,5). The details are shown in the table below.

FEXI	no modification	upslope ST segment	downslope ST segment	negative T wave	total
Emergency physicians					
no modification	352 (56%)	18 (3%)	12 (2%)	34 (5%)	416
upslope ST segment	18 (3%)	21 (3%)	7 (1%)	7 (1%)	53
downslope ST segment	55 (9%)	11 (2%)	37 (6%)	9 (1%)	112
negative T-wave	19 (3%)	2 (0,5%)	3 (0,5%)	22 (3%)	46
total	444	52	59	72	627

Conclusion: Our study demonstrates that ECG interpretation in the ER during the early management of ACS is not always concordant with an external interpretation. Among the discrepencies, 5% of upslope and 3% of downslope of the ST segment were not recognised with potential undertreatment. Further study should delineate the consequences of these discrepant interpretations on patients' outcome.

1195-114 Can Noninvasive Transthoracic Doppler Echocardiography Predict the Disturbance of Coronary Flow Before Coronary Angiography in Patients With Acute Coronary Syndrome?

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Background: Recently developed transthoracic Doppler echocardiography (TTDE) allows us to measure coronary flow velocity in the distal segment of left anterior descending coronary artery (LAD) in a noninvasive manner.

Objectives: To evaluate the alteration of LAD flow measured by TTDE in patients with acute coronary syndrome (ACS).

Methods: In 35 consecutive patients with ACS, we measured the diastolic peak flow velocity in the distal LAD by TTDE in an emergency room. The patients who had an acute myocardial infarction, complained of severe continuous chest pain and whose ECG showed a marked ST elevation were excluded. Echocardiographic examinations were performed with the Siemens Sequoia 512 digital ultrasound system. If we did not detect LAD flow within 10 minutes, we classified the coronary flow was under the detection level. The results of TTDE were compared in 4 groups classified from the TIMI grade of LAD determined by coronary angiography.

Results: Coronary flow was not detected by TTDE in 9 (25%) patients. In all of these patients, TIMI grade was 0 or I. According to ROC curves, the cut-off value of the diastolic peak flow velocity showed 14cm/sec. In 4 patients under 14cm/sec on the flow velocity, TIMI grade were II. In patients over 14cm/sec on the flow velocity, TIMI grade was II in 1 patient and III in 21 patients. The diastolic peak flow velocity in patients with TIMI III was higher than that in patients with TIMI II (20.1+/-4.1 versus 10.9+/-2.3 cm/sec, p=0.0001). A diastolic peak flow velocity of 14 cm/sec as the optimal cut-off value for the prediction of TIMI III had a sensitivity of 95% and a specificity of 100%.

Conclusion: Coronary flow velocity measured by TTDE closely related to the TIMI grade determined by coronary angiography. Coronary flow measurement by TTDE enables us to determine the treatment strategy for ACS patients in an emergency room.

1195-115 A Simple Electrocardiographic Method to Predict Patency of the Infarct-Related Artery After Fibrinolytic Therapy

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Background: Multilead ST-segment resolution (∑STRES) can predict infarct-related artery (IRA) patency following fibrinolysis, but is clinically impractical. We evaluated simpler single-lead assessments of absolute ST-segment deviation (STD).

Methods: ECGs and angiograms were obtained at baseline and 60 minutes in 544 patients with STEMI treated with full-dose TNK or reduced-dose TNK plus a GPIIb/IIIa inhibitor. Minimal residual STD (MRSTD) was considered present on the 60-minute ECG if there was <1mm STD for IMI or <2mm STD for AMI. Method 1 (ECG 0/60): The lead of maximal STD on the baseline ECG was assessed for MRSTD on the 60-minute ECG. Method 2 (ECG 60): The 60-minute ECG was assessed for MRSTD in the appropriate leads (IMI: II, III, aVF; AMI: V1-V6, I, aVL). Method 3 (∑STRES): Multilead STRES was calculated from baseline and 60-minute ECGs (complete: >70% resolution).

Results: More patients were identified using ECG 0/60 (54%) than using ECG 60 (43%) or using ∑STRES (40%). Test operating characteristics for IRA patency (TIMI 2/3) and normal IRA flow (TIMI 3) were similar (Table). C-statistics for IRA patency were 0.70, 0.65, and 0.68 for ECG 0/60, ECG 60, and ∑STRES, respectively.

Conclusion: The presence of MRSTD, as determined using the baseline and 60-minute ECGs, is a strong predictor of IRA patency with better test performance than the more complex ∑STRES. This simple measurement may assist clinicians in rapidly determining which fibrinolytic-treated patients can safely avoid emergent angiography.

TIMI 2/3 Flow / TIMI 3 Flow

	N (%)	PPV	NPV	Sensitivity	Specificity
ECG 0/60	293 (54)	93 / 70	31 / 55	61 / 64	79 / 60
ECG 60	233 (43)	92 / 69	26 / 49	48 / 50	82 / 68
Complete ∑STRES	220 (40)	95 / 72	27 / 51	47 / 50	89 / 73

1195-116 Outcomes Using Stress Myocardial Perfusion Imaging in Patients With and Without Troponin Elevations

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Background: Stress myocardial perfusion imaging (MPI) can be used to evaluate risk in chest pain patients (pts) once the pt is stabilized. Outcomes after stress MPI in troponin (TnI) positive (+) versus negative (-) pts have not been reported in a large cohort of pts. **Methods:** Consecutive pts admitted for MI exclusion underwent serial assessment of cardiac markers (CK,CK-MB and TnI). Additional diagnostic testing was at the discretion of the cardiology attending, with stress MPI performed in most lower risk pts. Stress SPECT MPI was performed using symptom limited exercise or pharmacologic stress with injection of technetium-99m sestamibi or tetrofosmin at peak stress. A test was considered positive if there was a reversible defect (Rev) (defect present on stress but not rest imaging). Thirty day cardiac events assessed included MI, cardiac death and revascularization (R). **Results:** A total of 1355 pts underwent stress MPI after serial marker sampling. TnI was (+) in 42 (3.1%). TnI (+) pts had similar outcomes whether or not there was a Rev defect. In contrast, in TnI (-) pts, Rev defects identified a higher risk cohort. **Conclusions:** Pts with negative stress MPI who were TnI (-) had an excellent outcome. In contrast, TnI (+) pts had significantly worse outcomes, including TnI (+) pts with negative MPI, who were still high risk for adverse cardiac events.